AMENDMENTS UNDER 37 C.F.R. 1.111

CLAIMS AS AMENDED: CLEAN VERSION

Please replace existing claims 1, 6, 10, 14, and 17 respectively with amended claims, 1,6, 10,14, and 17, all of which are presented below in clean form.

A marked-up version of all claims showing the amendments presented herein is attached at the end of this Amendment and Response.

1. (Amended) A thermal mass flow controller housing, comprising:

a) a first chamber for enclosing a bypass tube, the first chamber including a wall for mounting a second chamber;

b) a second chamber for enclosing a sensor tube, the second chamber including a wall for mounting to said wall of the first chamber, both walls including input and output apertures formed therethrough to provide access to the bypass tube for the sensor tube;

c) a thermal ground formed between the first and second chambers, the thermal ground comprising substantially the entire thermal conductive path between the first and second chambers, the thermal ground positioned to substantially preclude the conduction of a thermal gradient from the first chamber to the second chamber; and

d) a heatsink in conductive thermal contact with at least a portion of the first chamber and formed to conduct thermal energy from within the first chamber away from the second chamber.

6. (Amended) A thermal mass flow controller housing according to claim 3, wherein the conductive thermal element includes one or more exterior surfaces that face substantially toward the first chamber and one or more exterior surfaces that face substantially away from the first chamber and one or more of those surfaces that face substantially away from the first chamber includes structure to dissipate thermal energy away from the first chamber.

10. (Amended) A thermal mass flow controller comprising:

a) a control valve assembly for controlling the rate of fluid flow through a conduit, the control valve assembly in thermally conductive communication with a thermal mass flow controller housing;

b) a sensor assembly for sensing the rate of flow of the fluid through the conduit as a function of the difference in temperature between first and second regions of the conduit and for generating a control signal as a function of said rate of fluid flow, the sensor assembly in thermally conductive communication with said mass flow controller housing;

c) a thermal ground formed between the mass flow controller housing and the sensor assembly, the thermal ground comprising substantially the entire thermal conductive path between the sensor assembly and the valve assembly the thermal ground positioned to substantially preclude the conduction of a thermal gradient from the mass flow controller housing to the sensor assembly; and

d) a heatsink in conductive thermal contact with at least a portion of the control valve assembly and formed to conduct thermal energy from within the control valve assembly away from the sensor assembly.

14. (Amended) A thermal mass flow controller according to claim 13 wherein the mass flow sensor assembly includes a sensor tube having an operational section and the major axis of the thermal ground is perpendicular to an axis defined by the operational

section of the mass flow sensor.

17. (Amended) A thermal mass flow controller according to claim 11, wherein the conductive thermal element includes one or more exterior surfaces that face substantially toward the sensor assembly and one or more exterior surfaces that face substantially away from the sensor assembly and one or more of those surfaces that face substantially away from the sensor assembly includes structure to dissipate thermal energy away from the sensor assembly.